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Teacher Resource Centres in Developing Countries: An Effective Strategy for Improving the Quality of Education in Schools?

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Abstract

The major aim of this study is to attempt to assess the effectiveness of teacher resource centres (TRCs) as a strategy in helping to improve the quality of education in schools in developing countries; the purpose being to assist policy makers in deciding whether or not to invest in teacher resource centres as part of new education development projects. The research methods employed in the study were a literature review and case studies. Case studies were done in four countries: Kenya and Zambia in Africa and India and Nepal in Asia. These countries were chosen because they have ongoing, British assisted educational development programmes which include teacher resource centres. A summary of findings across the 4 case studies: The expectations placed on TRCs to help teachers develop their capacities to be reflective and flexible, to identify and solve their own problems, to create their own resources and to effectively apply new ideas to teaching and learning have not been realized. Implications and options: The major problem of TRC strategy is that it is not designed to work inside schools. Few programmes start with where teachers are and build incrementally from there. Four options are presented: *Option 1* : Of the TRC programmes with a higher level of involvement in schools. *Option 2* : TRCs as Model Schools, whereby the scaling up 'model' practice to other schools in the cluster will be the major problem. *Option 3* : TRCs as Resource Centres for Books and School Supplies: In a Schools Resource Centre staff could be trained to accumulate, prepare and package resources for schools. *Option 4* : The suggestion is to develop textbooks and learning resources first and then train teachers specifically in their use. In such an approach the goal of in-service teacher training is for the teacher to become a competent technician capable of following prescribed procedures in support of children's use of learning materials. Children can engage with a degree of independence and can get on with learning when their teacher is absent. The study raises the more general question about the relevance to developing countries of education concepts and models transferred from the West.

1 Introduction

Teacher resource centres (trcs) are places where teachers meet and where resources for teaching and learning are held. They provide 'professional services to teachers to enable them to perform effectively in their (schools) and classrooms'. (MS/DANIDA 1996). They do this by transferring resources, curriculum and pedagogical ideas from central agencies to teachers and schools; and/or by providing an environment for teachers to come together to discuss, to create teaching and learning materials, to attempt to solve their teaching problems.

There are literally thousands of trcs scattered around the developing world. Initial efforts to establish trcs in former British colonies can be traced back to the successful development of teachers' centres in Britain in the 1960s. By the early '70's the teachers' centre concept was becoming a major export abroad (Thornbury 1973). Such was the faith in the idea of teachers' centres and the British model, that the Commonwealth Secretariat commissioned a 'handbook' which could be 'applicable to those setting up or developing teachers' centres in widely differing social, economic and education conditions' (Kahn 1982). The book, 'Teachers' Resource Centres', authored principally by H. Kahn was first published in 1984 and revised in 1991, after being in 'constant demand'.

Since the 'World Declaration on Education for All', formulated at Jomtien, Thailand, in March 1990, trcs have become a very popular item in the aid-to-education package of the major donors as one strategy for attempting to improve the quality of education. The Jomtien doctrine of „universal access to ... primary education by the year 2000“ (Little, Hoppers & Gardner 1994: 238) created a huge demand for teachers to service the anticipated great quantitative expansion, and an increased concern to help bring education systems into line with modern ideas of teaching and learning. Teacher resource centres theoretically seemed to fit the bill. While aid related projects were building new schools they could also build teachers' resource centres in local communities, as part of the school itself or as a separate building on the school compound. This would be the place where local teachers can gather and discuss their needs and develop materials; where training courses cascading down from central authorities can be held and from where teaching and learning resources can be disseminated.

Many education projects supported by the British Overseas Aid Administration (currently the Department for International Development, DfID) in the 1990's have included trcs as an integral part of their education sector planning. New trcs are constructed and/or existing ones are picked up from previous projects, either to build on successes or to revive flagging programmes. It is within the light of DfID's commitment to trcs that it commissioned a study to attempt to evaluate the effectiveness of the strategy to use trcs to support quality improvements in schools. This paper is an abridged report of that study, 'The Effectiveness of Teacher Resource Centre Strategy'. It was done by the University of Leeds School of Education with the sponsorship of the British Department for International Development. It was a two year study completed in August 1998. ¹

2 Purpose and Research Questions

2.1 'To Have Or Have Not?'

The first purpose of the study is to provide policy makers with information to help them decide whether or not to invest in teacher resource centres as part of new education development projects. Thus, we ask the question: To what extent do trcs help to improve the quality of teaching and learning in classrooms? This question is based on the ultimate goal or 'outcome' of trcs which is to impact positively on classroom practice. Quite simply we are asking what is the degree of 'transfer' from teacher centres to classrooms in regard to teaching behaviour and use of materials. Our more focused questions are:

Pedagogy and School Management

- To what extent are teachers incorporating pedagogical methods put forward through trc programmes into their teaching repertoire? (e.g. paired work in oral drills, use of number lines and other subject related methods; classroom manage-

ment, blackboard skills, higher order questioning and other general pedagogical methods)

- To what extent are students becoming a part of these initiatives? (e.g. using worksheets produced at trcs; doing a science or social studies investigation; using textbooks as a resource for analyzing issues and problem solving.)
- To what extent are schools incorporating management strategies put forward through trc programmes into their operations? (e.g. a new system of recording attendance; setting up a programme of demonstration teaching, establishing subject curriculum groups)

Resources and Materials

- To what extent do trcs stimulate the creation and development of learning materials by teachers, pupils, anybody?
- To what extent do trcs play a significant role in the distribution of resources to schools?
- Are there other bodies supplying resources to schools and are they doing so effectively and efficiently?

There are results other than teaching behaviour and materials visibly in operation in classrooms that can be considered as legitimate outcomes of trcs. Raising the level of awareness of new methods and materials, increasing levels of knowledge and skills which underpin curriculum and pedagogy, generating motivation and positive attitudes are among the potential outcomes of trc programmes and activities. These, however, are outcomes which may or may not result in improved teaching and learning. We acknowledge that they may yield dividends in the long run. But, in this study our central focus is the immediate classroom as we see it, i.e. the materials and the behaviours of teachers and children that appear to be in practice as a result of the work of the local trc. Before detailing how we attempt to measure effectiveness in terms of 'transfer' from trc to classroom let us consider the second purpose of the study.

2.2 'What To Do With Existing Trcs?'

The second purpose of the study is to provide policy makers with some suggestions for how to make existing trcs more productive. Thus, we ask the questions: *What are the issues surrounding trcs; how are they affected by these issues; and how do they react to these issues?* We were very conscious of the fact that there are quite literally thousands of trcs in existence around the developing world and thousands more are being considered in new development plans. The question, then, is not simply whether to leave trcs in or out of development plans or to close or leave open existing ones, but how trcs might become more productive. Set in many different contexts, trcs come in many different forms, some more effective than others, some with particularly promising and/or unpromising features. A second major function of the study, therefore, is to highlight possibilities for improving existing trcs and to offer caution in what to avoid in new projects.

Major Issues Affecting Trcs

- *Relevance*: How relevant are the content and methodologies embodied in the work of trcs, through courses and activities, to existing realities in schools, e.g. facilities in schools and classrooms, the way teachers presently teach and underlying philosophies, factors affecting teachers and children outside of school and so on?

- *Resource base* : To what extent are resource inputs into trcs programmes (personnel, time, materials) sufficient for meeting programme goals and expectations?
- *In-service training* : How do trcs fit into the wider strategy of in-service teacher training, and to what extent do they play a useful, strategic role in the effective implementation of in-service programmes? For example, how do trcs fit into such delivery models as institutionally based in-service training; cascade systems; school-based training?
- *Decentralisation* : What is the place of trcs within a policy of decentralisation?
- *Sustainability*: To what extent are trcs sustainable after the life of the project that set them up? Does self-financing seem possible and desirable?

3 Methodology

The research methods employed in the study were a literature review and case studies. The literature review is in two parts. The first part focuses on the 'rise and fall' of trcs in Britain from their early beginnings in the 1970s to their present role in the Department for Education and Employment's 'Literacy Hour' and 'Numeracy Hour'. The second part tracks the export of the trc concept from Britain to developing countries. It includes not only a historical account but also an examination of trcs in regard to some of the major issues that have been with the growth of education in developing countries for decades, e.g. centralised control vs local control; teacher training vs resources for learning; training teachers as professionals or as technicians; cascade systems of training vs responding to locally felt needs; sustainability of education initiatives and so. In addition the literature review also helped to inform the design of the case studies.

Case studies were done in four countries: Kenya and Zambia in Africa and India and Nepal in Asia. These countries were chosen because they have ongoing, British assisted education development programmes which embody teacher resource centres: 'Strengthening Primary Education' (SPRED I and II) in Kenya; 'Action to Improve English, Mathematics and Science' (AIEMS) in Zambia; 'Secondary Education Project' (SEP) and 'Basic Primary Education Project' (BPEP) in Nepal; 'Andhra Pradesh Primary Education Project' (APPEP) in India. (Although Britain's assistance to APPEP ended in 1996, its trc programme continues to operate under the new District Primary Education Project.)

Another reason for choosing these four countries was because of the considerable working knowledge each member of the research team from the University of Leeds School of Education had of their particular target country. Also, we were able to employ host country colleagues with whom we have had long professional relationships to form country specific teams. These teams did the field work in their respective countries over two, 2-week periods, four weeks in all. The two study visits were separated by 3 to 5 months depending on the circumstances particular to each country. The first visit was intended to 'map out' most suitable sites for in-depth study, to visit trc in-service training programmes and satellite schools and to identify major issues surrounding the trc programme. In the interim periods between visits from Leeds staff, host country colleagues continued to carry forward the work on their own according to the overall research schedule. The second visit focused more specifically on trying to document 'transfer' from trc activities to schools and classrooms.

Although a set of common research instruments was developed initially and refined after the first visits, the procedures adopted for each country were determined by its

respective team on the basis of ‘opportunity’. Each country team presented its own report describing, interpreting and analysing its own findings. Differences and similarities relating to the four cases were then discussed, drafted and presented as ‘findings and comment’ and as ‘implications and options’. It should be noted that this paper is based principally on the case studies.

3.1 Research Instruments

Sets of instruments were drawn up to guide the gathering and analysis of information from relevant documents, interviews and on site observations. Three main institutions were targeted: central education administration including the ministry of education and donor agencies, teacher resource centres and their satellite schools. At the ministry of education and donor level we were chiefly concerned with the conceptualisation of the trc programme, including its place within the national teacher training and school improvement programmes. We were also concerned with the financing of the trc programme, the selection and training of personnel and programme evaluation.

At the teacher centre level the focus was on the individual centres at hand, i.e. basic information in regard to physical site, resources available, management, programme of courses, workshops, committee meetings etc. Also included was service offered by trcs to teachers and schools. The degree of utilisation of the trc facility by teachers, students and community featured prominently.

School profiles were made on sample schools within the orbit of the local trcs that were visited. These provided basic information on physical aspects, staffing, resources and management. A chief concern was to assess the conditions for teaching and learning within the school as a whole and in classrooms in particular. These instruments were essential for providing the context of trc programmes. For a more direct measure of effectiveness of trcs we used a ‘tracer technique’.

3.2 The ‘Tracer’ Technique

In this study we have attempted to determine ‘effectiveness of trc strategy’ by looking in schools and classrooms for teacher and pupil behaviours and/or teaching and learning materials that could be traced back to trc programmes. We visited trcs and sat in on in-service courses to record the content of courses and activities including teaching and learning materials intended for dissemination to schools. In turn, we visited satellite schools in respective trc clusters and observed many lessons taught by teachers who had been on trc courses. We were looking for elements in their teaching, in the materials they used and in what their pupils were doing in class and in pupils’ exercise books that could be traced back to work done at trcs. For example:

- *teachers at a trc in-service course are asked to express their individual feelings through a drawing and a few sentences in response to a poem read by the trainer, which are then displayed on a wall in the centre. Do we see similarly children’s drawings and writings displayed in classrooms and/or in their exercise books?*
- *teachers on a trc workshop make small pan-balances, like the ones used on market stalls, to weigh vegetables, and develop a set of maths and science activities to do with the balances. Do we similarly see pan-balances and children using them in the classroom, or evidence from exercise books that they had?*
- *do we see equipment distributed through the trcs and/or teaching and learning aids made at trcs by teachers being used by teachers and pupils in their classrooms?*

We were also looking for those ‘conditions for learning’ in schools that are implied in

stated aims and objectives of trcs. These may be iterated in in-service courses or perhaps as indirect messages at the centre, through charts and slogans displayed about. Obviously these kinds of ‘messages’ are less concrete, and their identification in schools is a bit of a subjective exercise. Here is an example related to the aims for trcs that come from the Regional Workshop on Teacher’s Resource Centres in Arusha, Tanzania (MS/DANIDA 1996):

„... teachers need to be able to adapt the curricula to local situations ... Trcs provide opportunities to discuss national curricular goals, to translate these into relevant learning experiences and to develop the necessary instructional materials ... Trcs provide systematic access to modern teaching techniques, new ideas and updated teaching and learning materials.“

To ‘trace’ the implication of these statements of purpose we have to ask the following questions:

- Is there any evidence *at the trc* of teachers being exposed to and/or producing activities and materials related to the local context?
- Is there any evidence of such activities and materials *in schools and classrooms* ?
- Is there any evidence that, indeed, *children are being engaged* in these activities and materials?

4 Findings

We will first look briefly at ‘highlights’ of our findings in each of the four case studies and then explore common ground between the projects. It is of particular interest that although each project is funded by the same donor, DfID, the trc component is quite unique in each. Each has distinctive features which define its physical setting, its place within the teacher training system, its management patterns, its level of resourcing its programme of courses and activities.

4.1 The Case Studies:

India Andhra Pradesh Primary Education Project : The teacher centre programme in APPEP is actually a process where all teachers in a cluster who did the initial 12 day training in the APPEP six pedagogical principles meet for a day 6 times a year. The purpose of these meeting is to consolidate and develop further the principles through sharing relevant experience and ideas.

APPEP’s Six Principles

To train teachers in:

- Providing teacher generated learning activities
- Promoting learning by doing, discovering and experimenting
- Developing individual, group and whole class work
- Providing for individual differences
- Using the local environment
- Creating an interesting classroom by displaying children’s work and organising it effectively.

Physically, the teacher centre is a room in one of the schools in the cluster. Prominent among the various issues that emerged in the study was the large gap between the ‘western’ oriented pedagogy being encouraged by the project and traditional ways of teaching and learning. It has been a big leap for teachers to make. The expectation that from ‘seed’ courses, teachers will continue to embellish and expand new pedagogical

ideas on their own with little advisory support in their classrooms has only marginally been realised.

Zambia Advancement in English, Mathematics and Science (AIEMS) : It is interesting to compare the 'Twelve Skills' of AIEMS with the 'Six APPEP Principles' listed above.

AIEMS's Twelve Skills

To train teachers in:

- Making and using teaching aids
- Using songs, games and rhymes
- Encouraging communication
- Planning lessons
- Planning group work
- Drawing
- Planning the chalkboard
- Using the local environment
- Testing for teaching and learning
- Questioning for teaching and learning
- Exploiting the text books
- Reflecting.

Although several entries are the same in both programmes, there laudably appears to be more concern in AIEMS for including skills that emerge from current classroom practice, e.g. 'planning the chalkboard' (by far the most commonly used visual aid in classrooms); 'exploiting the text books' (teachers rely most heavily on the student text book for planning and executing lessons).

The most prominent issue to emerge in the AIEMS project is that the cascade system of in-service training is beginning to by-pass trcs in an attempt to reach schools and classrooms more directly. Recognising the need to extend the cascade into schools, AIEMS began to develop school-based training and teacher groups. This begs the question, if training at the local level moves to schools, what is the role of the trc? One suggested answer is to shift the major role of the trc from training to providing resources, i.e. supplying textbooks and teaching/learning materials to schools, pupils and parents within its orbit.

Nepal Basic and Primary Education Project and Secondary Education Development Project: In both of these programmes trcs are purpose built structures. Both are mainly used as venues for courses in cascade systems. Although much of the content, training materials and methods on courses are subject specific and practical, the environment in schools for receiving teachers back from courses is very poor. The situation reminds us that the other side of the equation to in-service work at teacher centres is the school's ability and willingness to deal with new ideas and materials. Although management plans include trc staff making follow-up visits to schools in order to support teachers in implementing new ideas in their classrooms and with school-based training, the ratio of approximately one trc advisor to 12–15 schools in a cluster makes the task too big.

Another prominent issue to emerge in Nepal (and, indeed, in other countries as well) was the lack of integration of the trc into the professional life of the school to which it is attached. Although trcs, both primary and secondary, are physically sited at 'host' schools and selected senior teachers from the school often teach on trc in-service courses, it is disappointing to see how few of the pedagogical messages and teaching/ learning

materials fostered by the trc actually transfer to the host school and its teachers.

Kenya Secondary Teacher Resource Centre programme, Strengthening Primary Education (SPRED I and SPRED II) and the Aga Khan Education Service (AKES) project, School Improvement Project (SIP) in Kisumu and Mombasa: Kenya has had a relatively long history of various waves of donors picking up marginally functioning teacher centres for the next project. We have seen in Kenya just how difficult it is, if not impossible, for trc programmes to be self-sustaining.

However, a bright spot at the moment is the Aga Khan SIP programme in Mombasa. It offers a level of supervision in schools and classrooms that exceeds other programmes. One programme officer, who is intimately attached to the local Teacher Advisory Centre, is attached to only 3 or 4 schools for an entire year. The high population density in Mombasa and the closeness of schools, together with the high ratio of advisors to schools makes it possible for teachers attending trc courses to get follow-up support in their classrooms.

4.2 Summary of Findings Across the Case Studies

All of the education projects in the study have as their prime objective for trcs that they should be used to improve the classroom performance of teachers and thus raise the quality of education. Most of our findings, however, point to just how difficult it is for trcs to achieve this objective. The discussion below is in response to the central question, To what extent are the pedagogical methods and teaching/learning aids being put forward in trc courses being transferred to schools?

The trcs in our case studies are the venues for a variety of different kinds of in-service courses: from long up-grading, certificate courses for untrained teachers; to short courses to introduce subject content and pedagogical skills associated with particular development projects; to workshops for orienting teachers to new textbooks. Overall, we found little evidence that teaching and learning behaviours advocated in trc programmes are being used in schools and classrooms. With few, but notable, exceptions what we saw was traditional teaching, in poor learning environments, untouched by new catechisms. This finding should not be surprising. The literature on the up-take of new ideas from in-service training, particularly when it is conducted at venues outside of schools, makes fairly grim reading for those of us who work in the business. In this sense, then, we are commenting here on a world-wide problem. An anonymous teacher trainer once put it this way, "In-service teacher training seems to me like throwing a stone into a deep fountain and not even hearing a splash."

Almost all trcs deal with the dissemination of teaching and learning materials to schools. Some distribute materials handed down to them from central stores; some encourage teachers to develop their own; and some do both. Findings from our case studies suggest that trcs are not very good at handling materials for schools.

One exception to this is where trcs are involved in the distribution of pupils' textbooks and teacher's guides accompanied by relevant orientation courses for teachers. Teaching and learning materials from central stores can be distributed by any local body, the district education office, for instance. The unique contribution that trcs can make is to offer training courses in the use of these materials. The most successful of these, which we saw at primary Resource Centres in Nepal, are those which involve the distribution of new textbooks and accompanying teachers' guides. Teachers specific to the class level of the new textbooks come to the trc for a 3–4 day textbook 'orientation' course when they pick up their new books. These are very popular courses with teachers. They say, „This is

what we now have to teach. The course is good because it tells us how to use the books and the teacher's guide."

Nepali secondary science teachers, by contrast, are given a 3 day 'familiarisation' course on the new science equipment their school is supposed to receive. Unpacking and making an inventory of the bits and pieces and manipulating some of the apparatus to see how it works is all that is done at the course. Where and how to incorporate this equipment and material into the syllabus, at what class level, for what specific purpose and how to use them in lessons is not considered, as many Nepali science teachers complained.

What is most important to note, here, is not so much the quality of the course that accompanies the distribution of resources to schools. Rather, it is the nature of the resource itself that is crucial. Textbooks and teacher guides carry with them individual lesson plans and a sequence of work. With science equipment, and with any such teaching and learning aids, all the planning for when, where and how to incorporate them into lessons and units is left to the teacher. Consequently new science equipment most frequently sit in locked cupboards gathering dust and rust. The same can be said for globes, charts and models. Instruction manuals on the use of teaching and learning aids may be supplied, but these are not nearly as likely to stimulate teachers to use the equipment as injecting relevant information at relevant points in student textbooks and teacher guides.

Trcs are frequently heralded as places where teachers can come to make teaching and learning aids. Thus, centres are commonly equipped with type writers and duplicators, tools, card, chart paper and so on. Some even have computers, or plan to have them. What we found is that only a tiny minority of teachers use trcs for the creation of teaching and learning aids. A few teaching aids such as charts, models, diagrams are being produced on courses. But, as mentioned above, such materials rarely get to the classrooms, and it is even more rare for them to be used by children. Many trcs are decorated with teaching aids made by teachers, who have not produced duplicate copies for their own schools. In the APPEP programme, for instance, the teaching aids produced in workshops, together with children's work, are commonly put on display in 'a space not frequented by children.' In Zambia, many of the stories written by children and teachers in the 'Write a Book' scheme are presently lying unused in trcs. Lesson plans produced by teachers on up-grading courses in Nepal are stacked and 'yellowing' in trc store rooms waiting to be 'evaluated and marked'.

Very, very few learning aids (as distinct from teaching aids) are produced. It is extremely rare to see teachers at trc courses developing such materials as work sheets, problem sets, story books, reading comprehension exercises, sentence makers, even games. Do-it-yourself science equipment is sometimes seen, but the quality is commonly so poor as to be detrimental to learning (Knamiller, Nkumbi & Welford 1995).

As Gibbs and Kazilimani say in their Zambian case study, "... a culture of creating classroom materials, particularly learning aids, just does not exist." It is too much to expect of teachers and indeed of trc staff without specialist training. Only exceptional teachers, anywhere in the world, are creative enough and can spend enough time to produce materials for their own classrooms. It is a nice thought, but totally impractical, to think that most teachers will develop their own aids. This is particularly the case in developing countries where teachers are poorly paid and family responsibilities very demanding, and where materials for the construction of teaching/learning aids are scarce.

One of the roles for trcs frequently mentioned is as a 'drop-in' centre where teachers can come to make teaching aids, seek advice, use reprographic equipment and consult

reference books. We made a specific effort in our case studies to check on numbers of users. In all cases there were extremely few ‘drop-ins’. For example, on average in Zambia only 2 teachers per week visited the centres. In Nepal, 22 participants on an in-service course were asked how many of them come to the trc and how often. None had been to the centre before the course, even those who lived within a 5 km radius, and some only one kilometre away. We checked the borrowing records of reference books, and at one centre only 5 books had been borrowed in the last year, and those were checked out to trainers. This was a common finding in all case studies.

In terms of utilisation rates more generally, a most disturbing fact is that the trcs in our study, across the board, are used very little. In Zambia, our figures show that the utilisation of Resource Centres for workshops and teachers’ meetings amount to about 10% of available time. The project planning document written in 1993 called for a 90% utilisation rate by 1998. In Nepal, the 150 and 180 hour BPEP courses that used to be conducted at primary Resource Centres are now being moved to Teacher Training Centres. Resource Centres remain with only the 3 to 4 day textbook orientation courses and a few committee meetings. Even in the Aga Khan SIP project in Mombasa, only 3 or 4 workshop days are held in Teacher Advisory Centres. The project planning document for the Malawi School Support Systems Project 1996–2001, written in December 1995, set an 80% utilisation rate. Based on our findings, we can not imagine that this figure will be achieved.

In general we found that the expectations placed on trcs to help teachers develop their capacities to be reflective and flexible, to identify and solve their own problems, to create their own resources and to effectively apply new ideas to teaching and learning have not been realized. Within the time frame of our visits we have seen little observable evidence of the transfer of trc initiated materials and ideas into practice. Trcs have not, we feel, significantly impacted on the quality of teaching and learning in schools and classrooms. To be more specific we list the following findings:

Effectiveness of TRC Strategy in Terms of Impacting Directly on Classroom Practice

- In-service courses run through the trcs in our study make little significant contribution to improved teaching and learning in schools.
- The trcs in our study make little significant contribution to improved teaching and learning resources in schools; they have not been effective as material development centres where teachers and/or pupils develop teaching and learning aids (with a few notable exceptions).
- The trcs in our study have not been effective as ‘drop-in’ centres for teachers; neither as a ‘library’ of reference material nor as a depot for loaning books and teaching/learning materials to teachers and schools.
- The utilisation rate of trcs by teachers, students and community members in our case studies is very low, at between 10–12 percent of available time (with the exception of SEDUs in Nepal where residential, certificate courses are frequently in session).
- Most trc programmes in our study contribute significantly to the problem of teacher absenteeism and a consequent lose of time for children’s learning.
- The sustainability of trc programmes in our study, both financially and in terms of the evolution of professional ideas, is virtually dependent on outside resources, in particular international donors.

This is not to say that trc programmes have not produced some positive outcomes. We feel sure that they have, and perhaps such outcomes may come to fruition in classroom practice at some future time. To be more specific we list the following:

Possible Outcomes of TRC Strategy

- There is no doubt that the vast majority of teachers enjoy participating in trc activities, and they like having the idea of a trc in their community. Trcs are also generally popular with local education authorities and parents.
- Educators are being made aware of the existence of new, more active approaches to teaching and learning.
- Many in-service training courses at trcs are well designed, are beginning to target specific subjects and to show a stronger application to classroom practice.
- The need to follow teachers back to their schools to help them to plan, to develop materials, to teach and revise lessons and evolve schemes of work to support their implementation of new initiatives is becoming recognised.

5 Issues Surrounding TRCs: Reflections and Comments

5.1 Imported Pedagogy: Is It Relevant?

One of our major concerns is that most courses at trcs are tied to pedagogical philosophies, principles and methods pre-determined by project aims. For the most part these are Western oriented and carry the baggage of such rhetoric as ‘child-centred’, ‘low-cost, no-cost materials’, ‘discovery learning’, ‘reflective teaching’. We question the relevance of such pedagogical initiatives given the contexts we witnessed, e.g. the physical state of schools and classrooms, the conditions of service for teachers, the basic education of teachers, the professional work ethic, the sheer weight of traditional ways of teaching and learning. We question it also in light of significantly shifting views in the West. Britain in particular in the last part of the 1980s has shifted quite significantly away from liberal education traditions toward statutory curricula set by central agencies, prescribed instructional schemes and teacher lead instruction. Many of the philosophies in the projects we studied are from an older time in British educational history.

The pitch in the in-service programmes we witnessed is toward creating reflective, flexible professional teachers expected to make decisions about individual children’s learning needs; teachers with capacities to create learning materials improvised from local resources and to contextualise the curriculum within their local environment. The gap, between such ideal teachers and the present state of expertise of the vast mass of teachers is simply too great. It is too big a leap to make. And, in any case, such imported pedagogy denies what many teachers do best – lecture, tell stories, use the textbook, use the blackboard. But training does not commonly start here, with where teachers are. It starts with some sort of theoretical import of ‘good practice’.

Taking APPEP’s ‘6 Principles’, for example: we feel that asking teachers to group children goes too far, but having pupils work at their benches with a neighbour to solve a problem on the blackboard when the teacher calls up one pupil to do it, is bridging the gap. Asking teachers to create higher order questions for their lessons goes too far, but providing teachers with worksheets for pupils that include a variety of simple to challenging questions gets closer to what teachers do in their chalk and talk lessons. Having teachers create teaching aids goes too far, but printing the aids in the pupils’ textbook together with exercises for pupils that allow them to engage the teaching aid more actively fits easier with the lesson planning style of most teachers. Small, incre-

mental steps from where teachers are might just help them to bring back workable messages from trc courses and to use them out in their classrooms and with their colleagues.

5.2 Schools: Are They Ready to Receive New Methods and Materials?

The flip side to retailing new pedagogy and materials through in-service training at the local trc showroom is the ability of the client to use the product. In other words, is the school an able and willing customer? Are there management systems in schools for receiving new ideas; for restructuring them into the context of the school; for curriculum planning?

Most schools we visited were very far from being able to cope with new approaches and materials and to incorporate them into their teaching and learning programmes. In Nepal, for instance, there are no subject departments in secondary schools or subject co-ordinators in primary schools. The only curriculum related staff meetings are about making arrangements for terminal examinations. The situation is better in Zambia and in Kenya where curriculum management structures are in place and working quite competently in some schools.

Teachers' centres have an inherent problem in regard to helping develop environments in schools to support change. That is most trcs, almost by definition, work out-side of schools, and teachers leave their schools to come to them. This is often coupled with the assumption, that continues to persist in some programmes, that it is effective for one teacher from a school to attend an in-service course or workshop at the trc, with the responsibility to share the information and material with colleagues upon returning to their schools. Most teachers find it extremely difficult to do this. The climate and management practices in most schools we visited are not conducive to benefiting from a 'delegate' approach to in-service.

5.3 The Cascade Model: Where Does It Stop?

A basic problem with cascade systems is that they seldom extend into schools, or go that final step into classrooms. Most often the cascade stops at the trc. In Nepal an information brochure explaining the place of trcs in the Basic Primary Education Project says that Primary Resource Centres are „to bring new educational activities to the *doorsteps* of schools.“ Although obviously not intended, the statement illustrates so vividly the major problem with trcs, that is ideas and materials for improving the quality of schools may be delivered to their doorsteps, but there they sit. The teacher resource centre as a strategy has not developed the capacity to get into classrooms with the teachers who come on their courses. Quite simply trcs just do not have the number of staff needed to do so. There are too many schools in the cluster surrounding a trc, too many teachers, teaching too many different subjects, at too many different grade levels.

This situation brings into question the place of the trc in cascade systems. The AIEMS project in Zambia is shifting away from the simple cascade model that stops at the trc to a commitment to stimulating the development of teachers groups and works *hops* directly in schools. Gibbs and Kazilimani in their in-depth analysis of the Zambian cascade system, suggest that the trc is becoming circumvented in the move toward school-based in-service training. If this is the case, what, then, is the purpose of the trc, other than perhaps as a resource depot with a clerk to run the store?

Another phenomenon of cascades that relate to trcs is that inputs are initiated at the top of the bureaucracy and replicated down a series of professional levels to some

ultimate target group. What comes out at the bottom, in this case changed teacher and pupil behaviour in the classroom, is frequently not quite what is intended by those at the top who originally designed the innovation. And, frequently also, the cascaded innovation is not relevant in the eyes of teachers. They have their own ideas, problems and ways of doing things. It is interesting to note that the Aga Khan funded School Improvement Project (SIP) in Mombasa, Kenya, as reported by Welford and Khatete in their Kenya case study does not follow a cascade model, as there are no higher up professionals in distant places composing and handing down curriculum and pedagogy. The director of SIP and the programme officers sit down once a week to develop the workshop programme through a detailed needs analysis of the 3 or 4 local schools each is currently working in. Although programme officers have responsibility for their local trc, they host relatively few courses and activities. They spend almost all of their time in schools.

5.4 Sustainability

The issue of sustainability of trcs has two dimensions, the ability to survive financially and the ability to sustain their purpose of helping schools and teachers to improve the quality of children's learning. In both domains we are talking about survival beyond the life of the particular project that set them up originally or subsequently adopted them as orphans of past project. 'Adoption' is quite common. In our study the flagging trc programme in SPRED I has been picked up by SPRED II in Kenya; from SHAPE to AIEMS in Zambia; from Science Education Development Project to Secondary Education Development Project in Nepal; and from APPEP to DPEP in Andhra Pradesh. Sadly, this adoption of old projects by new projects reveals the state of trc sustainability.

Taking first the issue of financial sustainability. None of the trcs in our case studies were surviving on their own local resources. We did find, however, several imaginative attempts to do so: levying a 'tax' on schools; setting up shops selling photocopying and soft drinks; getting local business sponsorship; even an attempt to get interest on loans to schools for setting up agricultural projects. But, alas, the income generated from such schemes is small in relation to the expenses needed to maintain facilities, personnel, resources and programmes, ... indeed even to pay the electricity bills, which has become a significant problem at some centres in Kenya, Zambia and Andhra Pradesh.

There appears to be no alternative to outside support either through ministries of education or international donor agencies. Governments, while not adverse to maintaining the salary costs of trc staff, seem to be pulling back on extending full financial support. Conveniently they invoke the 'decentralisation' policy. We say 'conveniently' because decentralisation has increasingly been put forward as a way to improve quality education, i.e. localising management and contextualising curriculum, even to the point in some countries for localities being responsible for their own primary level examinations. Financial decentralisation is being tacked on to the professional decentralisation argument.

A particularly sobering account of what has happened in one project when the outside donor pulled out comes from Welford and Khatete's case study report on Kenya.

"The AKES withdrew from its SIP Project in Kisumu in 1996 (moving it to Mombasa), leaving nine established TACs (Teacher Advisory Centres). Kisumu now appears to be struggling to sustain its TACs as functioning entities. Despite the fact that the parents of each of 54,000 pupils enrolled in 128 primary schools pays 50KSh towards TAC activities, most headteachers do not remit any part of this money to the SIP account. The systems established by the AKES to sustain the TACs and to ensure continued input to improve the conditions of

learning in Kisumu's primary schools appear to have collapsed at the fundamental stage of transfer of funds from headteachers to the SIP account."

The fall-out from this in terms of the curtailment of TAC facilities and programmes in Kisumu makes grim reading. By and large it is international donors in wave after wave of new projects who continue to sustain trcs financially.

It is also the international donors who are sustaining the flow of professional ideas. We have not seen or heard of any aid programme that has just given money *carte blanche* to support on-going trcs programmes. Aid projects carry with them their own professional agenda. They also supply their own international technical experts and hire local consultants of like mind to help implement their agenda. In Zambia, for instance, the Danes aim to incorporate resource centres into their Pre-service Teacher Education Programme; and the British are planning to use resource centre facilities in their first language literacy programme. In Andhra Pradesh it is the consortium of donors backing DPEP that is stepping into the breach left by the completion of the ODA (DfID) supported APPEP programme; and undoubtedly it will inject its own professional ideas. In Kenya, the Aga Khan Foundation continues to take its own brand of working with TACs to different localities.

From our perspective, having examined the track record in some detail, it appears that the sustainability of trcs, both financially and in terms of the evolution of professional ideas, will continue to be dependent on outside resources, in particular international donors.

5.5 Teacher Absenteeism and TRCs

It would be irresponsible to discuss the impact of trcs on teaching and learning in schools without commenting on the role of trcs in teacher absenteeism. Teacher absenteeism is a major problem, which we all found in our respective countries. It is consistently commented upon in the literature as well. Like others, our sympathies go to teachers who are so poorly paid that they must focus energy and time on trying to make up the difference between their teacher's salary and what it takes to feed their families. Our concern, nevertheless, is with children and how the absence of their teacher so reduces their time for learning in school. It is particularly a problem in poor countries because classes are not covered when teachers are absent. In this sense, we have to consider *time* as one of the most precious resources available to children's learning, together with books, pencils and paper and, of course, a teacher.

Going to the trc takes teachers away from their classes. In some cases, the absence is short and perhaps children's time can be compensated for by gains in their teacher's increased knowledge and skills, motivation and commitment. The APPEP programme, for instance, requires teachers out of post for only 6 days a year. In Nepal, however, in-service courses last a long time, commonly a whole month, and there is no cover for those teachers who attend as participants and those selected heads and senior teachers who attend as trainers. Can their pupils ever be compensated for this loss of time? Do we as trainers, education planners and economists, in our enthusiasm for in-service training, realistically count this cost?

6 Implications and Options

The question addressed here is, *'How might trcs become more effective in helping to improve the quality of teaching and learning in schools and classrooms?'* We have

particularly in mind alternatives to the model which has the trc as a separate physical structure, with one adviser and whose programme relies principally on teachers coming to the centre, „... to study, refer to reference material, develop their own materials and seek counsel from the centre adviser“ (Malawi School Support Systems 1995). In our experience such things just do not happen to any significant degree.

Option 1: The Aga Khan Education Service School (AKES) Improvement Project (SIP) in Kenya

Of the trc programmes we observed, that operated by the AKES in Kenya offers the most effective model. This is because it allows maximum advisory support time in schools and a minimum amount of time for teachers to be absent. The Programme Officer works in only 3 or 4 schools for a whole academic year. S/he frequently works alongside a Teacher Advisory Centre tutor assigned to the cluster by the local education authority. This level of support in schools is what is so attractive, and not only because advice is more ready to hand. The presence of advisory staff in schools also encourages better teacher attendance at school and in classrooms. Khatete and Welford reported that they never saw a SIP classroom in Mombasa without a teacher. The teacher advisory centre functions more as a resource centre than as a training and advisory centre where teachers come. It is used as a venue for courses, but these are relatively very few across each year. Another attractive feature of the Mombasa SIP is that there is a team of Programme Advisors (PO). There are 10 POs in the Mombasa project. They are able to meet regularly to share ideas, to plan and to support one another.

There are three basic conditions for the AKES-SIP model to work. The first is that the programme operates in a high density population area where advisers can easily get to schools. Where populations and schools are more scattered other options have to be considered. The second condition is that the ratio of advisory staff to schools is high. Such a highly staffed programme costs more money. The third condition is that the community is heavily involved financially in the programme. AKES-SIP does not take on a community unless local creditors agree to share the costs and management of the project.

Option 2: The Trc as a Model School

Most trcs are located in a school. Few of these schools in any of our case studies seemed to be touched by its trc. On the whole schools did not use the physical facilities of the trc, only marginally its resources, and no more than any other school the pedagogical content of its in-service courses. Indeed, it was staggering to see how unaffected a school was by the presence of its trc.

A priority in all trc programmes is to bring the teaching and learning behaviours and materials heralded by trcs into their host schools. A most promising idea in this regard is to have the entire school become the trc. The trc would be a ‘model school’ in a cluster of schools. It would have no more materials than any of its sister schools. The difference would be that the teachers in the trc school are employing behaviours and materials that are being put forward by the project.

Scaling up good practice to other schools in the cluster is, of course, the major problem. There would have to be a system for other schools to come to see what is possible and to provide support for developing similar ways of working back at their schools. Working on the principle that a model school could be one way of increasing the pool of teacher advisers available to a cluster, perhaps a model school teacher (or a team of two) could exchange schools and classes with other teachers in the cluster for a period of time. This would allow ‘untrained’ teachers to work side-by side with ‘model’ teachers. And, it

would allow the teacher advisers from the model school to set up ‘model’ classrooms in a cluster school. In such a system classes would not be left untaught while their teacher was away attending courses. There are many possible permutations and many constraints which we can not pursue further here. The idea of a trc as a whole school, however, is worth serious consideration.

Option 3: Trcs as Resource Centres for Books and School Supplies

Another option is to drop the idea of the trc as an advisory, in-service centre in favour of it being a resource centre. It could become a book and school supply depot in those countries where these are provided by governments. Alternatively it could become a commercial enterprise in countries where the production and supply of textbooks and learning materials is increasingly being taken over by commercial publishers. Gibbs and Kazilimani suggest that „... resource centres could play a vital link role in spreading the opportunity for book buying throughout the whole of Zambia.“ They continue, „The sales manager of one leading publisher in Lusaka (Macmillan, Zambia) ... spoke of his interest in using the resource centres as outlets and allowing them a 25% price share.“

Another way that resource centres might act as book suppliers is as mobile book banks, loaning boxes of books and learning resources to schools on a rotational schedule. The trcs in Kenya are doing this and achieving great popularity with schools within a certain distance of the centre for their efforts.

Most importantly, however, is the idea of having a resource centre co-ordinator whose job it is to accumulate, prepare and package resources for schools. For instance s/he could:

- Make textbooks and readers more available to more users by breaking them into chapter sections and packaging them in pamphlet form.
- Collect comic books (commercially available in every country) and children’s magazines (environment agencies in some countries publish these), similarly cut them into sections and package them into pamphlet form.
- Set up story and non-fiction writing competitions for teachers and children in the cluster. Offer prizes, copy the best and package them for schools.
- Collect and package health, agriculture, environmental and many other such materials available free from government agencies, NGOs and commercial enterprises in most countries and package them for schools.

Option 4: Textbooks, Learning Materials and Time on the Task of Learning

In this option we suggest that the development of textbooks and associated learning materials should have a greater priority than the training of teachers. Much of the literature about how to improve the quality of education, particularly basic primary education, consistently puts textbooks and learning materials for pupils and time on the task of learning at the top of the list. The education and training of teachers is some way down that list. This begs the question of why aid programmes so frequently focus on teacher training. Perhaps the answer lies in the fact that aid projects are relatively short lived, and given the time and money available projects go for what appears to be most sustainable. As Welford and Khatete suggest in their case study of Kenya, development projects adopt the premise that ‘expertise endures, books decay’.

Since Jomtein, many projects have based in-service training on the view that a teacher should become an autonomous, reflective, flexible professional, capable of identifying and solving problems, creating teaching and learning materials and contextualizing instruction and learning within the locality for the children and community they serve.

This is a wonderful but unrealistic goal. Given masses of children, poor facilities and resources, vast numbers of under-educated and under-trained teachers, together with the sheer size of the education business to be run by personnel with little corporate experience, such a professional goal for training seems romantic, almost naïve.

A more modest and immediate goal for training should be given serious consideration: that the vast majority of teachers should be trained as competent technicians capable of following prescribed procedures in support of children's use of learning materials. Such an approach has achieved very impressive results in some large NGO education programmes in Bangladesh, e.g. Bangladesh Rural Action Committee, (BRAC), Gonoshahajjo Sangstha (GSS) (Craig et al. 1998; Jain 1997).

Obviously both textbooks and teachers are important to improving the quality of education. What we are suggesting is by no means a new idea; that is to develop textbooks-cum-workbooks which children can engage with a degree of independence. The role of the teacher, then, is to support children in their use of texts and other learning materials. Our suggestion acknowledges that teachers most commonly teach from the textbook and use it as their curriculum guide. Why not, then, focus on producing textbooks that engage children actively? In-service training would be principally for orientating teachers to the new texts and learning materials. Such training is immediately relevant and does not require the teacher to restructure multiple innovations into his lessons. If asking higher order questions, or grouping children or reflective teaching are training goals, student texts and accompanying teachers' notes should include them in relevant lessons and modules. And, presented in this way, theoretical considerations take on a more concrete, practical focus. An additional attribute of such learning material is that children can get on with learning when their teacher is absent. This, we feel, is the current state of affairs and where initiatives aimed at improving teaching and learning could usefully begin.

7 Concluding Remarks

This study has raised serious doubts about the effectiveness of the strategy to have an impact on the quality of teaching and learning in schools and classrooms. As in all in-service teacher training that takes place away from schools, little of the content of the courses finds its way into classroom practice. The biggest problem with the strategy is that it is not designed to work inside schools. Yet, it is clear that the vast majority of teachers need help and support in planning and trying out new ideas in their own classrooms. This is the case with older, experienced teachers and with new, virtually untrained teachers. Indeed, we all need such intimate mentoring in our work place when we are called upon to significantly change our behaviour, as courses and activities at the centres almost always prompt us to do. If the programmes that we studied are to make an impact on classroom practice, they will need to employ more advisors who are capable of working intimately with teachers and their children in classrooms over extended periods of time. The average ratio we observed of one adviser to 12 to 15 schools is simply unrealistic. We would like to see an entire school become the centre, bringing to life in classrooms a more active learning environment for teachers and pupils, with this in turn being offered as a model to its sister schools in the cluster. Existing centres would act principally as resource centres. Trying to get more textbook-cum-workbooks and other learning materials into the hands of pupils in classrooms with teachers in support of such materials, appears to be a promising venture to pursue.

This study raises a more general question about the relevance to developing countries

of education concepts and models generated in the West. The contexts within which education takes place and the resources available between the two are so very different. In such diverse situations can one expect, or indeed wish, that ideas, strategies and models will transfer?

The first point to make about the transfer of the *trc* concept from Britain to developing countries is that it is hard to define one British model. During the heyday of *trc* development in Britain in the 1970' and '80's there was a considerable variety of types of *trcs* throughout the country. Working models evolved from local needs and ways of doing things. There never was a national *trc* programme. In addition, *trcs* in Britain were constantly changing. What might stand for *trcs* today are virtually unrecognisable from what they were in the '70's and 80's.

While *trcs* in Britain have been both diverse from one another and continually changing, this has not been the case in developing countries. Here, the *trc* concept has been imported as a national strategy. The recipient country designs a single model centrally and distributes it to designated areas through an administrative and personnel hierarchy emanating from the capital. Local communities, whether professional or lay, have very little say in the matter. Unsurprisingly there is no feeling of local 'ownership', and consequently adaptation and innovation at the local level are seldom happens.

Contrast this, if you will, with the tremendously growing phenomena of private tutoring outside of formal school hours. It emerges locally with a great deal of enthusiasm, energy and financial support from parents. It has become big business and takes place from the sitting rooms of teachers to vast halls holding hundreds of students. Yet, we do not see any attempt by aid agencies to study the phenomena let alone begin to think of how such educational activities might be put to the common good.

In most countries there is a very successful publishing industry in comic books for children. These indigenously produced publications make fascinating reading. There are some excellent stories, cartoons and 'home truths'. Issues often include content of a more academic nature, e.g. science and historical information, sample exam questions/answers in mathematics and language. Amazingly in the back streets of Kathmandu we found several commercially run comic book 'libraries'. Parents support this local publishing business. Yet, we have not come across formal educational institutions looking into how this enterprise might be employed in schools.

In Bangladesh we have seen an educational NGO develop designs of how to display children's work around particular themes in the environmental science syllabus (house building materials and family water consumption, for example) on the classroom wall. They have developed from classrooms trials a whole book of such wall designs. It has proven to be a great help to teachers who by and large get the praise from parents for such attractive, periodically changing classroom walls. Yet, we have not seen the state education sector looking into this.

The point to be made here is that all too frequently aid personnel, together with their host colleagues in high educational positions with training in donor countries, will first look for ideas and models to transfer from the west rather than exploring widely and deeply what is happening locally. Many of the aid officials and their counterparts who write the specifications for education development projects do not have the time to make anything other than courtesy visits to schools and communities. To explore what is happening locally with the intention to tease out indigenous opportunities for educational development rarely occurs. Money is much more available to 'research' the adoption of a foreign educational product from Cuisenaire Rods to teacher resource centres than for investigating local resources and ways of doing things which may benefit quality

learning, fit more comfortably with indigenous practice and at the same time encourage innovation and enterprise.

This is not to say that transfer of educational ideas from one country to another is a bad thing. The potential benefits of the concept of cross-fertilisation seem obvious. We must be critically aware, however, of our basic assumptions, our absolutes that we hold in regard to all aspects of education. Our own familiar background, often stuck in a particular time frame, may cut a pair of translucent lenses when it comes to writing policy documents for education programmes. This is particularly the case when there is pressure to ‘come up with the goods’ on how to spend aid budgets. There seldom appears to be time to do the in-country research necessary to find those indigenous activities that could be exploited, or indeed combined in some way with outside ideas in a new synergism.

Notes

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